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November 23, 2005

Retirement Board
Arizona State Retirement System
3300 North Central Avenue
14th Floor
Phoenix, Arizona 85012

Actuarial Valuation of the "System" as of June 30, 2005

Dear Retirement Board Members:

We certify that the information contained in the attached 2005 actuarial valuation report is accurate and fairly presents the actuarial position of the defined contribution program administered by the Arizona State Retirement System (the "System") as of June 30, 2005.

We have made all calculations for this report in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the report's results comply with the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code, the Employee Retirement Income Security Act of 1974 (ERISA), and the Statements of the Governmental Accounting Standards Board. The undersigned actuaries are independent. They are both Enrolled Actuaries and Fellows of the Society of Actuaries. Eva Yum is a Fellow of the Canadian Institute of Actuaries and Charlie Chittenden is a member of the American Academy of Actuaries. Both are experienced in performing valuations for large public retirement systems.

Actuarial Valuations

The primary purpose of the valuation report is to determine the funded status (i.e., the ratio of market assets to total liabilities) as of June 30, 2005. Arizona State Retirement System (ASRS) rules call for the reduction of benefits whenever the funded status is less than 95%. The rules permit benefits to be increased if the funded status exceeds 105%.

Valuations of the "System" shall be performed annually, as of June 30, the last day of both the "System's" year and ASRS's fiscal year.

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Benefit Provisions

Each employer and each active member contribute 7% of the active members' compensation to the "System." These amounts accumulate with investment return before retirement. Guaranteed account balances consist of the employer and member contributions plus interest at the actuarially declared rate (currently 8%). Non-guaranteed account balances arise from investment earnings in excess of the actuarially declared rate – such earnings are called supplemental credits. When members retire, the "System" converts their accumulated account balances into actuarially equivalent monthly annuity payments, using interest and mortality assumptions. The portion of the annuity that arises from the guaranteed account balance is guaranteed; the portion that comes from supplemental credits is non-guaranteed. Supplemental credits that arise after retirement are distributed to the members in the form of non-guaranteed 13th checks. These checks are the annual annuity amounts equivalent to the post-retirement supplemental credits.

Assumptions and Methods

We assume investment earnings of 8%.

We assume that mortality experience follows the 1994 GAM-Static table projected to 2005 with Projection Scale AA, with rates at each age equal to 50% of the male rate plus 50% of the female rate.

The valuation calculates liabilities for nonretired members to be their account balances. For retired members, the liability is the present value of remaining monthly annuity and 13th check payments. We value assets at market (as reported by ASRS staff), and divide the market value of assets by total liabilities. The ratio is the funded status.

Executive Summary

The table below develops the funded status of the "System" as of June 30, 2005:

Assets at market	$541,519,833
Liabilities for:	
Nonretired members	$127,094,344
Retired members -- monthly annuities	$312,599,904
Retired members – 13th checks	$ 66,089,055
Total	$505,783,303
Funded status (assets/liabilities)	107.07%

Since the funded status is only 2% above 105% and the year-to-date investment performance for the plan year ending June 30, 2006, has not significantly exceeded expectations, we recommend no changes in the level of benefits. That is, monthly annuities and 13th check amounts should remain the same as they were last year. Members who were not eligible for a 13th check last year should remain ineligible this year.

The tables that follow are organized as follows:

Table 1	Demographic Data
Table 2	Liabilities
Table 3	Assets and Funded Status
Table 4	Gain and Loss Analysis for Retired
Table 5	Recommendations
Table 6	Summary of "System" Provisions

In preparing this actuarial valuation, we have relied on census data and asset information provided by the staff of the Arizona State Retirement System. While we have not verified the data at their source, we have performed tests for consistency and reasonableness. We find the data to be consistent and reasonable.

Sincerely,

Charles E. Chittenden

Charles E. Chittenden, FSA, EA, MAAA

Eva Yum

Eva S. Yum, FSA, EA

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Table 1
Demographic Data

Census Data for Nonretired Members

	6/30/2004	6/30/2005
Number of members	287	238
Total of balances	$140.8 million	$127.1 million
Average balance	$490,592	$534,010
Average age	63	64

Census Data for Retired Members

Annuity	6/30/2004	6/30/2005
Number receiving	1,829	1,797
Average age of members receiving	76	76
Total annual amount	$32.3 M	$33.9 M
Average annual amount	$17,649	$18,856
Median annual amount	$8,297	$9,065
Maximum annual amount	$182,321	$182,321
13th Check		
Number receiving	1,506*	1,431**
Average age of members receiving	76	78
Total annual amount	$8.7 M	$8.3 M
Average annual amount	$5,777	$5,829
Median annual amount	$3,607	$2,672
Maximum annual amount	$46,527	$46,527

* 1,661 eligible for 13th checks. 155 have zero 13th check amounts (i.e., no supplemental credits since retirement)
** 1,626 eligible for 13th checks. 195 have zero 13th check amounts (i.e., no supplemental credits since retirement)

Table 2

Liabilities

Liabilities as of June 30, 2005

Non-retired	Total Balances from Employee Contributions	Total Balances from Employer Contributions	Total Balances
Active	$16,988,141	$56,762,350	$73,750,491
Inactive	$7,681,856	$45,661,997	$53,343,853
Total	$24,669,997	$102,424,347	$127,094,344
	Liability for Monthly Annuity	Liability for 13th Check	Total Liability
Retired	$312,599,904	$66,089,055	$378,688,959
Total			$505,783,303

Liabilities as of June 30, 2004

Non-retired	Total Balances from Employee Contributions	Total Balances from Employer Contributions	Total Balances
Active	$18,639,718	$60,522,651	$79,162,369
Inactive	$8,991,841	$52,605,742	$61,597,583
Total	$27,631,559	$113,128,393	$140,759,952
	Liability for Monthly Annuity	Liability for 13th Check	Total Liability
Retired	$299,726,265	$70,285,989	$370,012,254*
Total			$510,772,206

* The increase in liability due to the change in mortality assumptions is $13,619,786.

Table 3
Assets and Funded Status

	6/30/2004	6/30/2005
1. Market value of assets	$544,664,179	$541,519,833
2. Total “System” liabilities	$510,772,206	$505,783,303
3. Funded Status (#1 / #2)	106.64%	107.07%
4. Surplus (#1 - #2)	$33,891,973	$35,736,530

Table 4
Gain and Loss Analysis for Retired

	Fiscal Year Ended:	
	6/30/2004	6/30/2005
1. Surplus at beginning of fiscal year	$2,428,566	$33,891,973
2. Interest on line 1	$194,285	$2,711,358
3. Liabilities Experience Gain (Loss)	$(4,920,653)	$(4,034,698)
4. Asset Experience Gain (Loss)	$49,809,561	$3,167,897
5. Change in Actuarial Assumption	$(13,619,786)	$ --
6. Surplus at end of fiscal year	$33,891,973	$35,736,530

The 2005 liability loss (#3 above) is due to retired members living longer than the new mortality table anticipates. There were 85 deaths of retired members during fiscal 2005. Although the number of actual deaths exceeded the number of expected deaths, the average monthly annuity for the members who died, $760, was far below the average monthly annuity, $1,571, for all retired members. The 2005 liability experience loss is small – only .8% of the total liability. Nevertheless, we will continue to monitor the liability experience of System members to see if a still stronger mortality assumption is required.

Table 5
Recommendations

ASRS rules say that benefits must be reduced when the System's funded status is less than 95%, and that the Board may increase benefits when funded status is greater than 105%. In this valuation, funded status is 107.07%. Since the funded status is only 2% above the 105% level and the current year-to-date investment performance for the plan year ending June 30, 2006, has not significantly exceeded expectations, we recommend no benefit adjustments. That is, monthly benefits should remain the same, and 13th checks should be paid as they were for 2004. New retirees will not receive a 13th check.

We continue to recommend annual valuations of the "System" to ensure that benefits are adjusted as necessary and that assets remain sufficient to provide benefits.

Table 6
“System” Provisions

The “System” is a Defined Contribution Plan, and was the original retirement program when ASRS was created in 1953. “System” benefits are based on the total amount of member and employer contributions, plus interest and supplemental credits in a member’s retirement account, at the time of retirement. Most members of the “System” elected to join the ASRS Plan when it became available, but those who never elected to receive benefits only under the ASRS Plan still accrue benefits and are entitled to receive retirement annuities according to the terms of the “System.”

While they are active, “System” members contribute a percentage of their salary, and their employers contribute the same percentage to their “System” retirement accounts. The percentage is currently 7%. “System” retirement accounts are credited annually with interest at the actuarial valuation rate. Investment return in excess of actuarial interest is called a supplemental credit. “System” retirement accounts are guaranteed, except for supplemental credits.

At retirement, “System” members receive the greater of the benefits that the “System” will provide and the benefits that the defined benefit Plan will provide. The “System” benefit is a monthly annuity that is the actuarial equivalent of the entire retirement account balance. The Plan benefit is a percentage of final average salary, multiplied by years of service. Plan benefits are 100% guaranteed, while the “System” benefit derived from supplemental credits is not guaranteed.

If supplemental credits occur after a member’s retirement, they are distributed to the member through non-guaranteed 13th checks. The amount of a 13th check that arises from a supplemental credit is calculated actuarially as an annual annuity with a present value equal to the amount of the supplemental credit. When supplemental credits occur in more than one year of a member’s retirement, the amounts are added, and one 13th check is paid.

If the funded status of the “System,” as measured in an actuarial valuation, is less than 95%, the Board will reduce benefits so that the funded status is restored to 95%. If the funded status exceeds 105%, the Board may (but is not required to) increase benefits until the funded status declines to 105%. The Board is authorized to change actuarial assumptions. Changes in the investment earnings assumption or the mortality assumption will change the funded status and can thus lead to benefit increases or decreases. Methods for adjusting benefits are detailed in ASRS rules.